

## ABSTRACT

The invention provides a diamond coated tool having an excellent cutting performance, wear resistance, adhesion resistance and work 5 surface roughness in combination and a method of producing such a tool.

A diamond coated tool comprising a substrate and a diamond coating formed on the surface of the substrate, wherein said substrate is made of a cemented carbide or a cermet, diamond grains constituting a growth surface of said diamond coating has an average grain size of about 10 1.5 micrometers or below, said diamond coating has a thickness ranging from about 0.1 micrometer to 20 micrometers, and said diamond coating has an average surface roughness Ra ranging from about 0.01 micrometer to 0.2 micrometer. Such a diamond coated tool can be obtained by carburizing the substrate consisting of a cemented carbide or a cermet, and 15 growing up a diamond coating thereon.